

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Tidewater Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Hampton/NASA Steam Plant
Hampton, Virginia
Permit No. TRO-61019

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Hampton/NASA Steam Plant has applied for a Title V Operating Permit for its Hampton facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____

Date: November 14, 2007

Air Permit Manager: _____

Date: November 14, 2007

Regional Director: _____

Date: November 14, 2007

I. Facility Information

Permittee

Hampton/NASA Joint Board of Oversight
50 Wythe Creek Rd.
Hampton, VA 23666

Responsible Official

A. McCord Newsome, P.E.
Acting Steam Plant Manager

Facility

Hampton/NASA Steam Plant
50 Wythe Creek Rd.
Hampton, VA 23666

Contact Person

A. McCord Newsome, P.E.
Acting Steam Plant Manager
(757) 865-4705

Secondary Contact Person

Anil Mehrotra
Acting Plant Engineer
(757) 865-1914

County-Plant Identification Number: 51-650-00061

Facility Description: NAICS - 221330. Refuse is received and stored in a stockpile, then fluffed, and delivered by an overhead crane, for mass combustion and waste heat recovery in one of two high pressure watertube Detroit Stoker water-wall furnaces (Units 1 and 2). Combustion gas products are cooled in a Keeler water-tube boiler with economizer. The flue gas is rapidly quenched and scrubbed with water and a lime slurry in a McGill AirClean spray dryer. Solid particles and acid gas by-products are removed from the flue gas with a three compartment McGill AirClean filter system. Emissions are monitored with Land Instrument FGAI analyzers. Flue gases from Units 1 and 2 are exhausted through two separate flues in a 248 foot double flue stack.

The facility is a Title V major source of NO_x, VOC and HAPs. This source is located in an attainment area for all pollutants, and is a PSD sized source. The facility was issued a minor NSR permit on 8/16/2007.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, were evaluated for compliance. Based on these compliance evaluations, the facility has been found to be late in submitting their excess emission reports as required in both their minor source permit and in their Title V permit. The facility was been issued Corrective Action letters for the lateness of their excess emission reports.

III. EMISSIONS INVENTORY

A copy of the 2006 CEDS Pollutant Emissions Report is attached. Emissions are summarized in the following table.

2006 Actual Emissions in Tons/Year

Pollutant	NO _x	HCl	SO ₂	CO	PM ₁₀	VOC
Total	122	93	48	4.3	2.3	2.3

IV. EMISSION UNIT APPLICABLE REQUIREMENTS

A. Definitions and Clarifications

We have added several definitions that are from 9 VAC 5 Chapter 40, Article 46 and that clarify how DEQ interprets certain terms. This has been done to allow both the facility and DEQ to be sure terms are interpreted the same way.

B. Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5 Chapter 40	Article 1: Visible Emissions and Fugitive Dust/Emissions
9 VAC 5 Chapter 40	Article 2: Emission Standards for Odor
9 VAC 5 Chapter 40	Article 46: Emission Standards for Small Municipal Waste Combustors
9 VAC 5 Chapter 60	Article 4: Emission Standards for Toxic Pollutants

The following federal regulation is applicable for notification only:

40 CFR Part 63 Subpart ZZZZ - National Emission Standards for Stationary Reciprocating Internal Combustion Engines (RICE)

C. Monitoring

The monitoring requirements of the minor NSR permit meet Part 70 requirements. The facility is subject to Article 46 of Chapter 40 (9 VAC 5-40-6750). Compliance is specified in 9 VAC 5-40-6730. CEMS are required for SO₂, CO and Oxygen. The facility is required to do annual emission tests to measure the emission levels of dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash. The results of the emission tests for dioxins/furans, cadmium, lead, mercury, particulate matter, opacity, hydrogen chloride, and fugitive ash are then used to demonstrate compliance with the applicable emission limits.

A special section titled "Definitions and Clarifications" has been added to the permit to help assist both the facility and DEQ in making sure Article 46 requirements are being met.

The October 2006 stack test shows the following emission rates for the following pollutants:

Pollutant	Emission Limits	Emission Rate Unit 1	Emission Rate Unit 2
HCl	250 ppmvd	43.7 ppmvd	67.6 ppmvd
PM ₁₀	70 mg/dscm	5.3 mg/dscm	8.1 mg/dscm
Mercury	0.08 mg/dscm	0.024 mg/dscm	0.043 mg/dscm
Cadmium	1.6 mg/dscm	0.0007 mg/dscm	0.0003 mg/dscm
Lead (Pb)	0.1 mg/dscm	0.0019 mg/dscm	0.0020 mg/dscm
MWC Organics	125 ng/dscm	34.6 ng/dscm	71.1 ng/dscm
2378 TCDD TEQ	-	0.56 ng/dscm	1.36 ng/dscm
NO _x	-	249 ppmvd	212 ppmvd
CO	100 ppmvd	4.3 ppmvd	5.6 ppmvd
SO ₂	77 ppmvd	44 ppmvd	24.3 ppmvd

Based on this stack test data it is unlikely that the facility will exceed any of the emission limits in the permit.

For the CO and SO₂ emissions, CEMS are required and provide direct compliance with the emission limits in the permit.

D. Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records are listed in Condition 22 of the permit.

E. Testing

The permit requires annual stack testing to prove compliance with the emission limits in Article 46. Article 46 lists all the test methods to be used for testing. The Department and EPA have the authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

F. Reporting

Reports include the Semi-Annual Continuous Monitoring reports, Annual emission statements, and Stack Test reports.

V. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

A. Comments on General Conditions

Condition 31

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit applications has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement No. 2-2003”.

Condition 36 and Condition 37

Specific Clarification request:

The permittee specifically requested clarification as to when they must send in a written report following a malfunction or deviation that results in an exceedance for more than one hour. DEQ-TRO has received input from DEQ-Central Office for this determination because this facility is specifically exempted from 9 VAC 5-40-50 C but does have continuous emission monitors and must comply with Article 46 of Chapter 40. The following has been included in the permit:

Compliance with Conditions 36 and 37:

- a) if there is an exceedance of an SMWC pollutant that:
 - (i) is not continuously monitored **AND**
 - (ii) due to a malfunction that will last for more than an hour,
then both the four hour notification and 14-day written notification are required.
- b) if there is an exceedance of an SMWC pollutant that
 - (i) is continuously monitored **AND**
 - (ii) due to a malfunction that will last for more than an hour,
then the four hour notification and semi-annual reporting is required.

DEQ-Central Office also provided further clarification; however, it is not included in the permit at the facility's request:

- c) if there is a *general failure* to meet a requirement of the regulation with respect to SMWC pollutants, only semiannual reporting is required.
- d) for the other non-SMWC pollutants - fugitive dust, odor, and toxics (other than those listed in this Article),
then both the four hour and the 14-day written notification are required.

Condition 37

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

Conditions 58-61

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in Conditions 37 and 58-61. For further explanation see the comments on Condition 37.

Condition 65

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

VI. STREAMLINED CONDITIONS

Condition 17 of the minor source permit has been streamlined out because it is direct conflict with Condition 15 of the minor source permit.

Conditions 15 and 16 of the minor source permit have been combined and the listed opacity has been changed to reflect the correct opacity limit.

VII. STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

Odor: (9 VAC 5 Chapter 40, Article 2) and the State Toxics Article: (9 VAC 5 Chapter 60, Article 4)

VIII. INAPPLICABLE REQUIREMENTS

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that “At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions.”

IX. PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Virginian-Pilot from September 28, 2007 to October 29, 2007.